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HONEY DEW NEWS

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May 1942

HONEY DEW NEWS

Published monthly by and for employees of the
SPRECKELS SUGAR COMPANY

OUR ENDEAVOR is to print information of likely value to members of the Spreckels organization so that we may better and more quickly learn from each other and about each other...to promote individual enthusiasm for doing better things in a better way with the firm belief that real merit cannot for long go unrewarded.

Editorial Staff

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Photographs: B. O. Bauer, J. E. Fagothey, W. C. Johnson, Rose Rhyner.

This Month's Cover Picture

June Stivers and Kay Shedden, of the Spreckels office force, hail the May Day in Spreckels Park. Photograph by R. R. Grunsky.

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USEFUL INFORMATION

Rule for finding length of belts:

Add the diameter of the two pulleys together, multiply by 3.14, divide the product by 2, add to the quotient twice the distance between the centers of the shafts, and product will be the required length.

To find the approximate length of belt in a roll when closely coiled:

Add together the diameter of the roll and the diameter of the center hole both in inches. Multiply by the number of coils in the roll and by 0.131. The result will be the approximate length in feet regardless of the thickness of the belt.

Example: How many feet of belting in a roll 48" in diameter with a 6" center hole and 60 coils.

48 + 6 = 54
54 x 60 = 3240
3240 x .131 = 424.44 or about
424' - 5"

WEIGHT-VOLUME RELATIONSHIPS
For
SPRECKELS HONEY DEW SUGAR
(1941 Composite)
Factory No.1

1	standard	measuring	tsp.	=	3.04	grams
1	"	"	tblsp.	=	9.18	"
1	"	"	cupful	=	193.2	"
1	level	service	tsp.	=	3.59	"
1	rounded	"	"	=	7.48	"
1	heaping	"	"	=	9.63	"
1	level	"	tblsp.	=	10.00	"
1	rounded	"	"	=	18.61	"
1	heaping	"	"	=	23.83	"

Each Item Equals 1 Pound

149	(149.2)	standard	measuring	tsps.
49-1/2		"	"	tblsps.
2-1/3	(2.35)	"	"	cupfuls
126-1/3	(126.3)	level	service	tsps.
60-3/4	(60.7)	rounded	"	"
47-1/5	(47.2)	heaping	"	"
45-2/5	(45.4)	level	"	tblsps.
24-2/5		rounded	"	"
19		heaping	"	"

Each Item Equals 1 Std. Cup

63-2/5		standard	measuring	tsps.
21	(21.05)	"	"	tblsps.
53-3/4		level	service	tsps.
26	(25.95)	rounded	"	"
20	(20.10)	heaping	"	"
18		level	"	tlbsps.
10-2/5	(10.38)	rounded	"	"
8	(8.10)	heaping	"	"

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KNIFE STATION AND SLICER MAINTENANCE

By A. A. Norman

This article was presented by Mr. Norman, Superintendent of the Manteca factory, at the Sugar Technologist Convention, March 30, 1942, Stockton, California.

The operation of the knife and slicer station and the effect on performance of subsequent operations is recognized by all as being of extreme importance. In presenting this article, we do not believe we offer anything of a revolutionary nature, however, in the light of improved performance on this station at the Manteca Factory over a period of three years, we present for your consideration our conclusions. A comparative summary of Station Data for the three years 1939, 1940 and 1941, shows the following:

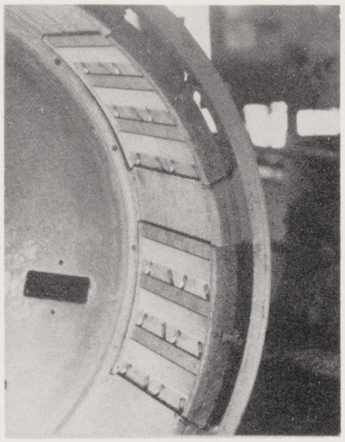
Knife changes per M. Tons Beets, 1939 - 3.7; 1940 = 2.7; 1941 = 1.2; Knives Used per M tons Beets, 1939 = 14.4; 1940 = 11.4; 1941 = 8.8. Files used per M Tons Beets 1939 = 5.1; 1940 = 4.1; 1941 = 2.9.

We believe the development of uniform and precise measurements and maintenance of precision during the operating season is reflected in this improvement. Because of the importance of the slicer station to overall factory performance, much thought and effort has been given to the objective of maintaining high performance on this station. Measured by general operating standards throughout the industry, no doubt this is being achieved, as the result of rigid application of uniform practice in maintaining and conditioning all parts that go into a complete slicer assembly and on this basis it is quite probable that local operating standards are set up beyond which operating improvement can only be made by refinement of existing practices and accessory equipment. The use of automatic filing machines has come into general use in the industry, making possible uniformly conditioned knives which is of prime importance.

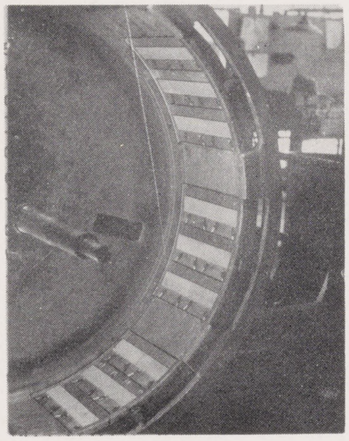
On the routing machine at Manteca, it was found that by reversing the direction of rotation of the routing file (that is, toward the point of the knife), that a much better job of routing could be done, and that after filing the knife by running it through the router again at an angle approximately midway between the regular routing and filing, the objectionable bevel left by the file was reduced and thus made room for the cossette to pass into the division escaping the sudden contraction of the cross-section caused by the bevel which without a doubt in most types of beets, causes considerable breakage and short cossettes. The operation of the filing machine is a very precise operation when taking into account the fact that a cutting edge is some what less than .001" of an inch in thickness, which means that in order to keep rejects to a minimum, the machine must be well maintained and skillful operators used, jointers should be in such condition that the jointed knife is to exact dimension that is equal length at each end of the knife, variations of which mean trouble in direct proportion at the filing machine; likewise crooked knives. Varying thickness and diameter of files presents another problem in direct proportion often making a complete readjustment necessary when a change of files is made.

We have found this variation to be as much as .075" and in order to minimize this difficulty, complete checks of file and router stocks are made and sizes matched and none but matched sizes used until exhausted. By this, many wide ranges of machine adjustments are avoided and time and material saved.

In discussing the problem of maintaining a high degree of slicer efficiency, it is of doubtful value to mention the effect of variations in the quality of slicer output which to all of us is a common fact and elementary but, nevertheless of extreme importance in the light of capacity operation and final extraction figures. Such variations maybe a combination of large and small cossettes, short and macerated, or square and "V" cross-section, any one of which has its evil effect on diffusion battery operations and, no doubt, we have all tried many methods of battery manipulation to overcome such conditions with indifferent success, which leads us to the conclusion that there is no substitute for uniform cross-section cossettes.



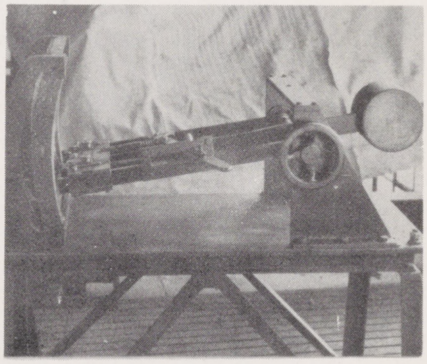
There are a number of factors which cause the conditions mentioned in the foregoing, most of which can be eliminated. These we list as follows: Misalignment of knives in the blocks, non-uniform setting of guide or rocker bars, improper operating position of the blocks in relation to the radius of the slicer spider, misalignment of the blocks in operating position and non-maintenance of exact radius of spider segments between block positions. The reason for mis-alignment of knives is, of course, obvious as are the measures for correction. The non-uniform fitting of the guide bars presents another matter as does the other mentioned conditions, which we will attempt to examine. The slicer parts exposed to the beets in passing through are subjected to an extreme amount of abrasion and due to the low pH of the beets, considerable corrosion results. The first objective should be to correct this condition and maintain as near as possible the original dimensions of the slicer spider and knife blocks. To this end and use of non-ferrous metals such as, hard drawn copper, hard drawn brass, monel and stainless steel has been found very effective. At the Manteca Plant the surfaces in question are fitted with copper and show no appreciable amount of wear after slicing over 350,000 tons of beets.



The segments in the spider which hold the blocks in operating position should be maintained to exact radius with the axis of rotation to insure exact concentricity of all segments with the axis. Care should be taken in establishing the depth or thickness of these segments in relation to the thickness of the knife blocks to be fitted, which will reduce the time required for the block fitting. When fitted and in operating position the inside arc should remain unbroken, that is the inside radius of the block should be equal to the inside radius of the segment between the blocks which means a smooth surface and a minimum disturbance of the beets as the knife approaches, the result of which is the size cossette the knife is gauged for. We believe the precise fitting of all blocks to the spider and matching one with another is a difficult problem with the methods of measurement now generally in use.

In recognizing the fact that the base or block on which the knives and guide bars are set must be exact, we must also recognize the fact that knife blocks are castings and have a relatively small amount of machined surface, and are subjected to an extreme amount of wear and corrosion, which means there is no definite or constant reference point from which a setting of guide bars and knives can be made to precisely match one block with another, and inasmuch as the general practice is to gauge knife settings in millimeters and fractions thereof, much careful work in gauging to such small tolerance may be nullified by the above mentioned conditions.

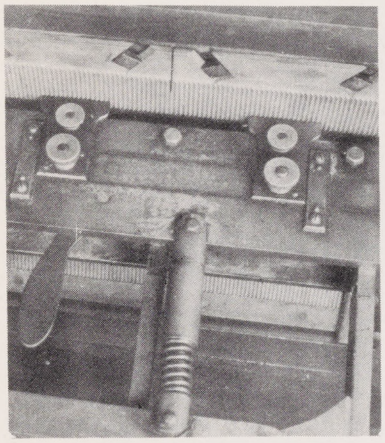
Realizing that the conditions mentioned in the foregoing created in the aggregate a very considerable error in slicer operation at the Manteca Factory, the development of equipment to insure exact radial measurements on all parts was undertaken; the problem being to provide means of gauging guide bars and knives independently of the blocks.



Norman Knife Trammer

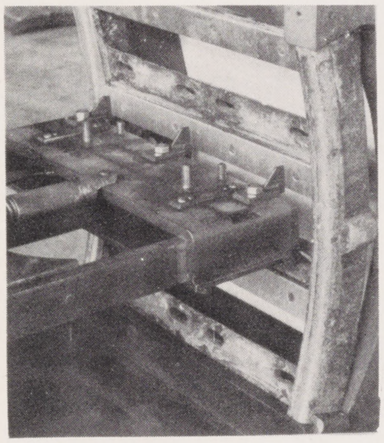
This was achieved by exactly duplicating a section of the slicer spider and mounting the same on a suitable machined surface to receive the block being checked. With the block securely held in an exact duplicate of its operating position when in the spider, means for measurement and gauging was provided by an arm or arms pivoted in exactly the same relationship to the axis of the slicer spider.

A retractable head was mounted on these arms and for gauging guide bars three-fingers suitably designed, were mounted on this head which when moved outward to the bar, indicates at three points simultaneously. To check knife alignment, A Type in relation to B Type, two plates were mounted on the retractable head, provision being made for one-half division of movement transversely of the arm, and having serrated edges registerable with the corrugations of the knife.



Knife Aligning Unit

The use of this piece of equipment has revealed and made possible the correction of a number of errors in slicer maintenance and operation and the routine use of it in all knife setting operations reveals maladjustments due to carelessness or wear, before they reach such proportions that the condition becomes general and creates a major problem.

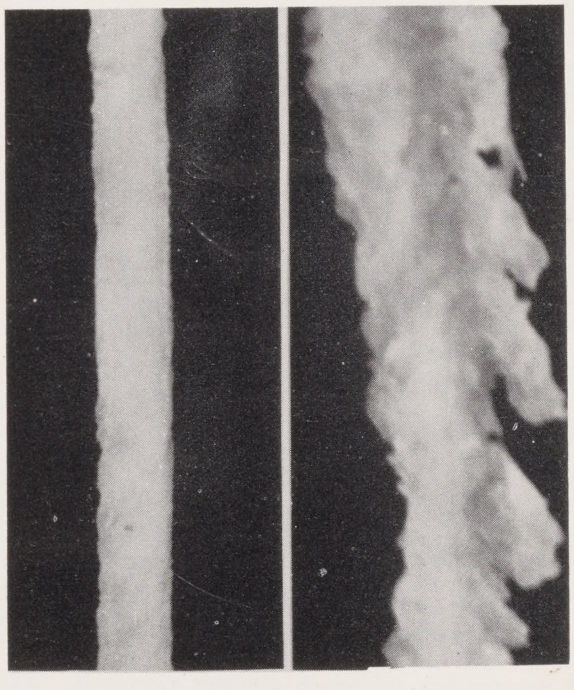


Gauge Bar Radius
Adjusting Unit

In reference to the statement that realization of conditions mentioned in the foregoing created in the aggregate a considerable error in slicer operation at Manteca, we would like to point to the fact that in a standard 8 block slicer assembled for operation there are 48 separate points any one or more of which can be out of gauge but all should be in exact relationship one to another and should rotate in their respective arcs, concentric with the drum axis. These points we list as 24 guide bars, 8 blocks top and bottom and 8 segments between the blocks, all of which, if viewed critically, require a separate operation in fitting with all measurements made from or a duplication of the drum axis.

During the past three years, there has been offered to the industry a knife block which has two advantages over the old rocker bar type, consisting of a fixed base for the guide bars and a flat milled surface on which the knives rest when in operating position. In the case of the fixed base for the guide bar it is our conclusion that there is one pitch for the bar and knife at which they will best perform and when once established should be maintained. At the Manteca Plant, we have found 3/32" pitch to be optimum. The flat milled surface on which the knives rest in the new block has the advantage that no distortion of the knife is caused when bolted into position as is the case in the old type, which is machined to radius creating a difference of about .009" in the center of the base with respect to the outside edges. While this may appear to be of little consequence, it can be demonstrated with a new straight knife and a turned block by tightening the knife in position which if the above mentioned condition exists the points of the knife will raise from 1 to 2 millimeters when the base of the knife is lowered by the bolt pressure. When this condition prevails, a hammer is usually within easy reach and the knife hammered down to gauge which means further distortion and filing machine difficulty.

In conclusion, we feel that the term slicer capacity should not be too closely associated with a high output rate, but rather with a minimum cross-section cossette at which battery circulation will maintain capacity rate. Under favorable conditions most of which can be controlled, a maximum continuous hourly slicing rate of from 35 to 40 tons per slicer is not unreasonable to expect and with it a state of balance on the diffusion battery that every operator is working for i.e., capacity, low draft and normal losses.



Left: A perfect cossette. Right: An imperfect cossette. Enlarged several times.

FACTORY NO. 1--SPRECKELS

Al Kaas of the Agricultural Department has been transferred to the Sacramento District.

Ed De Mattos spent his vacation in a dental chair.

Joe Braga is receiving the congratulations of his friends on account of the birth of a son on April 24th.

Mrs. Ross Riley is at home recuperating from an operation performed in a San Jose Hospital.

R. A. Gorrell, Southern Pacific Company agent, has returned from a vacation trip to Chicago.

Mrs. Ruth Johnson is at work again following a two weeks' absence on account of illness.

A. J. McKinley's birthday, April 21st, was fittingly observed at his home, where he received the congratulations of his many friends, who joined with him in playing cards. The serving of refreshments, which featured a beautiful birthday cake, concluded a very happy evening.

James Williams gave his sister, Miss Barbara Williams of Salinas, in marriage to Carl Bowers at the Post Chapel, Fort Ord, on April 25th.

Lawrence Head has returned to work after an absence due to the Nazi (pronounced "nasty") measles.

Mr. and Mrs. W. C. Johnson recently called on the latter's father, John C. Larsen, Jr., who is ill in the Sutter Hospital, at Sacramento.

S. F. Dutton was a recent visitor from the Statistical Department of the San Francisco Office.

Women's Building

The corner stakes have been driven to indicate the site chosen for the women's locker house and rest rooms. The location is directly west of the Main Engine Room, near the settling ponds. In order to make room for the building it was necessary to pull out several full grown pepper trees, which was no trick at all for the caterpillar, with Julie Hamilton at the controls.

It is proposed to erect a modern, wooden frame building, size 30 by 180 feet, at an approximate cost of $20,000.00. There will be lockers, showers and rest room facilities for 300 women.

H. M. Rainey's condition is reported to be improving, but due to great loss of blood and poisoning, two additional blood transfusions were necessary. Blood donors were Morris Jones, Joe Koch and Virgil Wallace.

In a letter to Louis Ferreira, Private Austin Means of Scott Field, Ill., wrote: "I am very happy to be in the Army. In fact, it is the first time in my life that I am proud of myself. Soon now, Old Red Means will have the Japs on the run. Well, anyway, me and a few thousand more guys. I was married six weeks ago, and somehow I managed to get a swell little woman. How I did it is beyond me. She is just a poor little working girl and only makes $40.00 a week, and buys a $75.00 bond every month. I am making arrangements to turn 80% of my Army pay into bonds, then when I come out of the Army, we'll have a start anyway."

Wallace Barksdale is in the Salinas Valley Hospital recuperating from an appendectomy.

E. W. Mitchell and W. C. Johnson attended the Personnel Managers' meeting at Hotel Lake Merritt in Oakland on April 21st.

Recent visitors from the San Francisco office were C. J. Moroney, W. K. Gray, O. H. Dersheimer and P. W. Alston.

George Ulricksen, J. C. Collins, and F. Lacey attended the Union negotiations meeting in San Francisco.

H. F. Gunnerud, recently Assistant Factory Sup't with the Hawaiian Agricultural Co., Hawaii, T. H., has joined the Spreckels staff as a Chemical Engineer.

W. S. Stivers, R. E. Briggs, and Wm. Tetrick were among those who attended the War Department Civilian Defense school at Stanford University during the latter part of April.

Jack Goodrick, with a two weeks' supply of pulp fattened worms, left for a fishing trip in the Cachagua country.

A. B. Meese made a trip to Lathrop to sell his ranch to the Government.

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Wanted

A Sports Editor for Factory No. 1 and volunteer reporters. News items need not be written, merely telephoned to the editorial staff.

FACTORY NO. 2---MANTECA

Women

A survey has been made of jobs in the Manteca plant which could be filled by women and proposals submitted for the necessary changes to be made to accommodate women employees. Approximately one hundred women have applied for jobs up to the first of May.

It has been proposed to convert the Club House into locker rooms for the use of women employees. At present this building houses the lockers for male employees, but these will be transferred to the factory. Additional locker space will be made available for men by converting the former tare laboratory into a locker room. This room will be used by the beet dumpers and yard crew, who in the past have had lockers in the machine shop and factory, which was not a satisfactory arrangement.

To provide rest room facilities within the factory for women, alterations will be made to the present drafting room, including painting, decorating and furnishing.

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Congratulations to Miss Lois Johnson and Charles Whelan who were married on April 18th in Sacramento. Mr. Whelan, a former employee, is now a Sergeant in the Quartermaster Corps stationed at Sacramento.

- - -

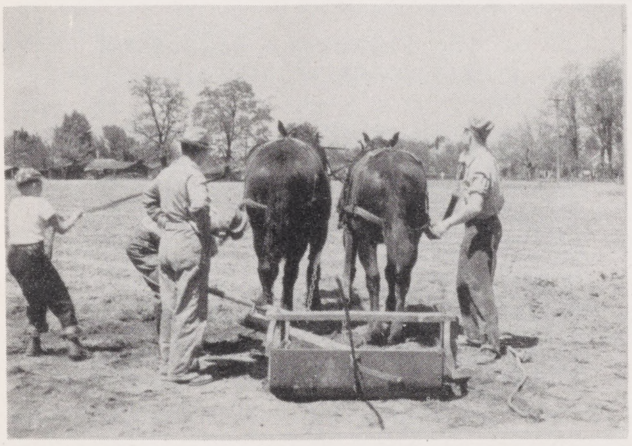
Miss Betty Connors, daughter of Tom Connors, and Rhys Smith were married in Manteca on April 17th. Mr. Smith is an officer in the Royal Canadian Air Force.

- - -

Gerben Verver, who enlisted in the Navy some time ago, is now attending a Diesel Engineering School in Chicago, Ill.

- - -

Heartfelt sympathy is extended to Hobart Clark on the recent death of his father.



Schlumbohm, Schattenburg, Luck and Johnny in the corn patch.

Del Luck thinning out his undersized radishes.

Gardens

The Editor-in-Chief of the Honey Dew News, on a recent visit to Manteca, was taken on a tour of the Spreckels Victory Gardens and was very much impressed. The quality and quantity of the vegetables being grown, which Mr. Johnson will verify, is indeed impressive and, if the size of the fence posts George Johnson (Missouri Johnsons) has in his garden to support his Kentucky Wonder beans is any indication of the size of the beans he expects to raise, we ain't seen nothin' yet. A cooperative corn patch has been prepared and planted with the assistance of a team of horses kindly loaned to the Cooperative by Del Luck's father. Quite a job of leveling was necessary, but with the team under the guidance of two expert teamsters, Schlumbohm and Schattenburg, it was accomplished in record time.

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Tom Summers entered St. Joseph Hospital in San Francisco during the latter part of April to undergo an operation for a shoulder injury. The injury occurred last year and has not responded to treatment.

- - -

Ira Resch attended a ten-day course offered by the U. S. Army on Civilian Defense during April at Stanford University.

FACTORY NO. 3---WOODLAND

H. W. Daeschner, Chief Chemist, employs the delicate balance.

"Doc" McGinnis, Alston, Jr., and W. A. Sackett burned up a little rubber journeying to Oakland to attend the VC April Camera Conclave and Salon, Sunday, April 26th. The highlight of the day was an altercation with a Hotel Oakland waiter who was allergic to country boys who put candlesticks under the table.

Tom Poore, electrician at Factory 3 for the past five years, reports from his home in Hohenwald, Tenn., that he has obtained a better position and will not return for the campaign.

Doyle Persson enlisted in the Air Corps and reports for duty May 6th.

E. G. Metz enlisted in the Marines and is in training at Camp Elliott.

Phyllis Anderson and Corporal Howard Stafford, Jr., motored to Reno, Nevada, Tuesday April 21st, and returned the next day as Mr. and Mrs. Employees at Factory 3 with them much happiness. Corporal Stafford is located at Camp Roberts.

Frank Harrigan attended a class of instruction on chemical warfare conducted by the Army at Stanford University. The purpose of the class was to instruct civilians in the methods of handling bombs and gases should an attack occur.

Doc's Squeak

"Doc" McGinnis had a squeak in his shoe,
and everywhere that "Doc" went, the squeak
went too.
And so one morning, much to his amazement,
He found his shoe down in the basement.
For the funny old shoe, lonely as could be
Had gone down there to seek some company.
For it was tired of mute shoes that made
not a sound,
It sought a little mouse that squeaked and
played around.
And so poor "Doc" had to buy a new pair,
And now his face is filled with despair,
For everywhere that "Doc" goes his shoes
go too,
But he's lost his little "pet" and doesn't
know what to do.

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Captain James R. Rudolph, Special Chemist during the 1941 campaign, is now serving his country with the Pan American Ferry Command. Before leaving for an undisclosed destination, he visited some of his friends at Factory 3.

At 5:15 P.M., April 15, little Barbara Marie, six pounds six ounces of loveliness, arrived to brighten the home of Mr. and Mrs. W. O. Weckel.

The No Lost Time Accident record was halted at 63 days on April 7th, when a barrel of hot lime turned over and burned K. L. Kerr's leg and foot. He is now back on the job feeling fine.

Joe Shierts and Rube Jess have been in bed with pneumonia. Rube returned to work on April 28th, but Joe will be at home for another week.

Eugene E. Buffington had to get up earlier than usual Friday, May 1st. He had an appointment with Uncle Sam to report for duty at 6:15 A.M.

54% of the Factory 3 employees have signed to buy bonds on the payroll deduction plan.

Warren Sargent, Warehouse Foreman, replaces Felix Hinshaw who has enlisted in the U.S. Navy as a 2nd Class machinists's mate.

SACRAMENTO DISTRICT

Claus Spreckels paid us a surprise visit on April 1st.

Ben Marcum has been appointed as our local staff photographer.

Julia Perisich has been selected as Star Reporter, assistant to Associate Editor Julian C. Greene.

Gail Zellinger has taken over the work formerly done by Bradley Vaughan. He has also been assisting the fieldmen in their work.

Ollie Clark was off duty for two weeks with an infected arm. He has returned to work and is completely recovered.

John C. Larsen, Jr., is confined at the Sutter Hospital in Sacramento at this writing. He has been quite ill for some time and it is hoped that he will get well soon. It is said that the pretty nurses are keeping close watch over him and will not let anyone visit him. Doctor's orders, so they say. Jack Hills has been assisting in Mr. Larsen's territory, during his absence from work.

Bert Brown, formerly of the San Francisco Office, has been appointed Office Superintendent of the Sacramento Office. K. A. Kincade is taking over new duties with the San Francisco office as his headquarters. Congratulations to both.

Did You Know That?

ED SCHWING was born in the little country of Alsace-Lorraine?

WARD WATERMAN was named for the county in North Dakota in which he was born?

JULIAN GREENE was born in the house used by Jefferson Davis as the first "White House" of the Confederate States in Montgomery, Alabama?

GUS BOWMAN was the carpenter foreman when the Fair Oaks bridge was built across the American River in 1908? This bridge is 260 feet long with a 400 ft. trestle and is still in use.

ALEXIS HIGGINS was "Sergeant Higgins" when in the National Guard?

KEN KINCADE caught his first fish through a hole in the ice, sight unseen as it were?

HARRY VENNING won his "letter" at U. C. jumping the hurdles, and GUY MANUEL won his in the broad jump and was Captain of the track team.

Gossip Column

By Julia Perisich

The other day J. C. Greene came in the office with a new suit. At least, it looked like a new suit. He said he hadn't worn it for a long time, due to the fact that it was too tight. He had to have the seams let out to fit his embonpoint. Mr. Greene has the right spirit to make his old things last as long as possible.

The girls of the Sacramento Office had the pleasure of seeing Mrs. G. P. Wright at one of their luncheons at the Fawn. Mrs. Wright looked stunning in a light green wool suit with matching accessories. She has a very pleasing personality and the girls hope that she liked them as well as they liked her.

A. L. Knudsen came back last week with a very interesting resume of his trip through Arizona and New Mexico. He said he also had an opportunity to stop at Factory 1 to call on old friends, who send their regards to all of us here in Sacramento.

This must be a month of new suits. Mr. M. H. Greenberg has a nice blue one, also Mr. K. A. Kincade and Mr. G. P. Wright.

Mr. Higgins' youngest daughter, after a siege of illness, is completely well and home again.

Oliver W. Clark has been on the sick list for the past two weeks.

A sparkler is being worn on the left hand by Miss Esther Cloke. She says that the wedding has been tentatively set for the first part of next month.

Georgina Klaudt and Julia Perisich are just beginning their first aid course in conjunction with defense work for the building. There are approximately 25 persons in the class. A first aid kit is furnished each floor to be used for no other purpose than air raids and only by those authorized.

The Sacramento offices had just gone through the upheaval of spring cleaning when Mr. C. A. Thulander of San Francisco made an official visit. It is hoped that he will come again soon.

Green seems to be the popular color in the Sacramento office; green eyeglasses, green ear rings, green shirts and green slacks. We haven't seen anyone spring out in green shoes yet, but give them time.

SUGAR BEET SEED

By H. F. Melvin

H. F. Melvin

From the time sugar beets were introduced in the United States, early in the nineteenth century, up until a few years ago, European countries supplied most of the seed used for sugar beet production. This seed, however, was not curly-top resistant and could not be used successfully for planting in areas where the Beet Leaf Hopper (Eutettix tenelus-Baker) was prevalent. This insect affected agriculture severely west of the Rocky Mountains. It not only caused large periodic losses to the sugar beet, bean and tomato industries, but limited the areas in which these crops could be grown to an advantage.

After much experimentation, a control measure in this area was adopted based on the idea that the elimination of the host plant, and the proper use of lands in the breeding areas would reduce and keep the insect under control. This procedure is being carried on at the present time. While effective, the Bureau of Plant Industry was making definite progress in another direction, toward a solution of the beet leaf-hopper and curly-top problem by developing curly-top resistant strains of sugar beets.

Small scale commercial plantings of sugar beets for seed were begun in New Mexico in 1927. Production of these resistant strains expanded rapidly into California, Arizona, Utah, Nevada, Texas, and Oregon, all of these states having similar conditions for growing the crop.

The method for producing resistant strains of beet seed departed from the conventional European practice in that climatic conditions in these states permitted the beet plants grown from seed planted in the late summer to be over-wintered in the field, or which is now called the "annual" method of production. The seed being planted during August is allowed to remain unthinned, therefore by the time cold weather stops further growth, the beet has developed tap roots about one-half to one and one-half inches in diameter. By early March or April, up to late June, the plants begin to produce seed stalks and reach a height of four to eight feet, depending on soil fertility. The winters must be warm enough to allow the plants to live over, but on the other hand, cold enough to cause the physiological changes required to turn the plant from the vegetative into the reproductive phase of its cycle.

The European method is the biennial system. The small beet roots, which are dug before the frosts, are stored and protected over the winter. They are replanted in the spring and seed stalks develop from which seed is harvested in the fall.

The United States Department of Agriculture has done important work in developing varieties of beet seed best adapted for particular plantings. Each has outstanding characteristics as to resistance against curly-top, bolting, mildew, etc. Of the varieties in commercial use, one has been developed which is used for early planting, (December and January) because of its bolting and mildew resistance. Another is suitable for mid-season planting because of its intermediate resistance to curly-top, and still another for very late planting because it has a very high resistance to curly top.

The Spreckels Sugar Company will require for the 1942 planting season, approximately 1,500,000 pounds of seed. This seed is grown at Hemet, California, and in various sections of Oregon, (Willamette Valley, Klamath Falls, Medford, etc.), by the West Coast Beet Seed Company, of which Spreckels Sugar is one of the stockholder companies.

Sugar beet seed balls contain, on the average, more than one germ each, which means several seedlings per seed ball are produced. To obtain a stand of single beets, the seedlings are thinned to the desired spacing by hoeing and finger work.

There has recently been developed a machine for breaking the seed ball into segments, each containing approximately one germ. This segmentation produces seed which grades 80 to 85% of seed pieces containing single germs and is called "sheared seed". Special planting equipment is required for this seeding and from two to five pounds of seed per acre is used, whereas regular planting necessitates varying amounts up to sixteen pounds per acre. It is expected that sheared seed will aid materially in a mechanized program of beet production. This is the latest development on beet seed and is being used by many growers on a portion of their acreage as trial plantings.

HOW WE GET SUGAR FROM THE SUGAR BEET

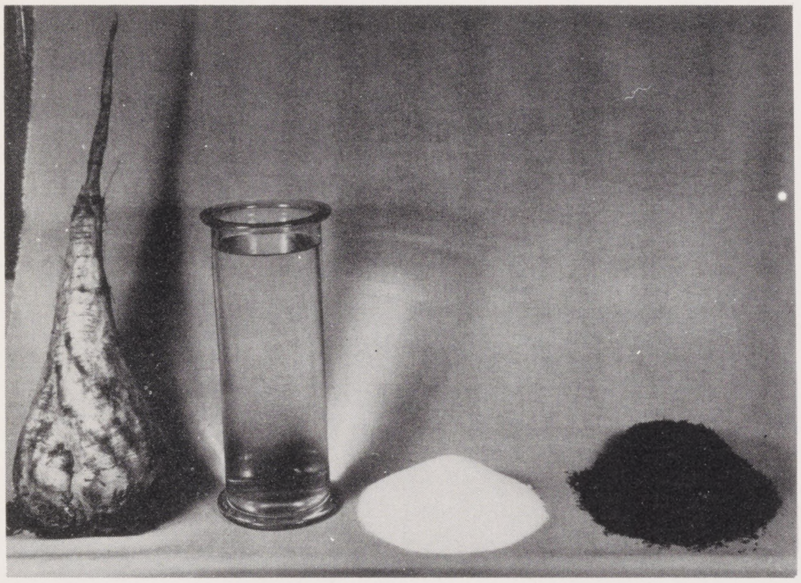


FIGURE 1. Typical sugar beet, weighing 2 pounds, consisting of about 75% (24 ounces) water; 18% (5-3/4 ounces) sugar; and 7% (2¼ ounces) fiber, ash, and organic matter.

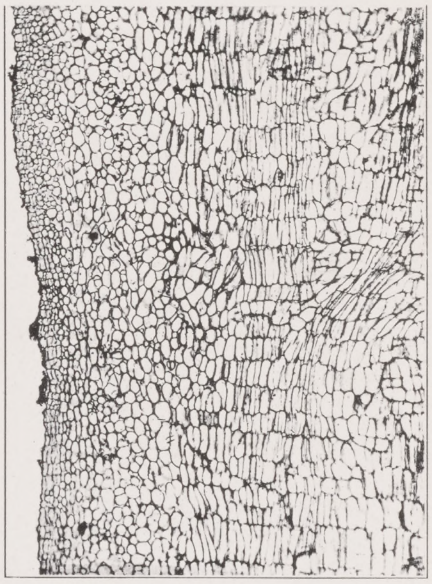


FIGURE 2. Highly magnified section of interior of sugar beet showing the countless number of cells in the structure. Sugar is stored in these cells.

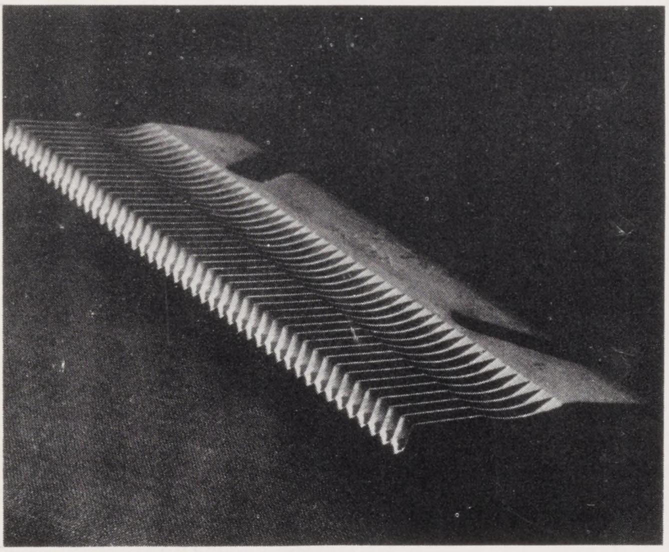


FIGURE 3. Typical Knife 6 inches long, having 46 cutting divisions, made of a special alloy steel for slicing sugar beets into chips.

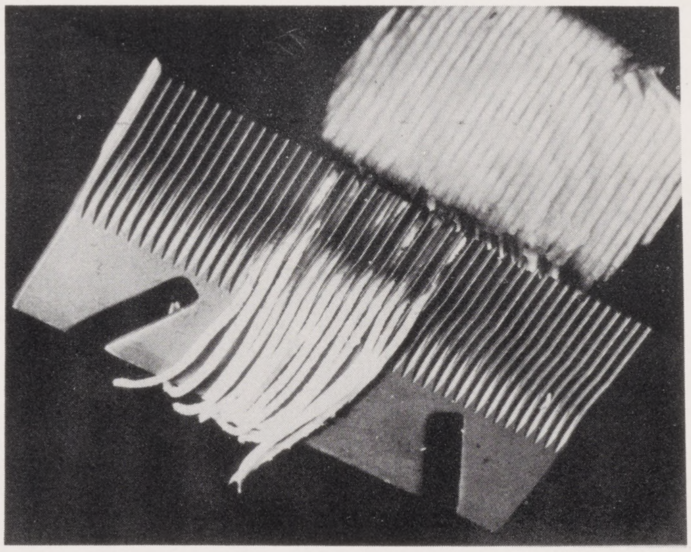


FIGURE 4. The slicer knives are mounted to form part of the rim of a revolving drum, with the cutting edge inside. The beets are continuously fed into the drum and as they are sliced the chips are discharged from the knife, as shown, and conveyed to the diffusion battery. The drum is kept filled so as to press the beets firmly against the knives, which cut the beets into strips about 1/12 inch in thickness and width, and in varying lengths depending upon the part of the beet in contact with the cutting edge of the knife. These strips resemble shoe string potatoes and are commonly called beet chips or cossettes.

HOW WE GET SUGAR FR

Continued from

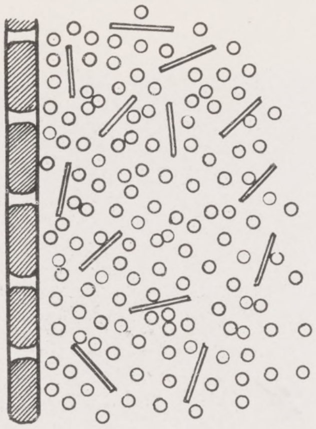


FIGURE 5. Diagrammatic sketch showing a small portion of one of the microscopic beet cells (see Figure 2) and illustrating the distribution of the molecules within the cell and also the cell wall. Within the cell is a liquid substance containing molecules of sugar, represented by the small circles, and non-sugar molecules represented by the long splints.

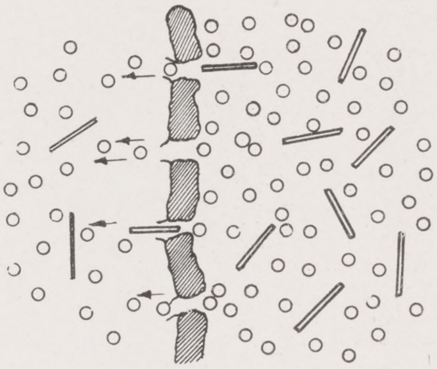


FIGURE 6. When the beet chips are immersed in water the cell walls (shown in Figure 5) are weakened, as illustrated in Figure 6, permitting a mixture or diffusion of water with the liquid in the cells. The molecules of sugar in solution, because of their shape and size, diffuse or pass through the cell wall more readily than the non-sugar molecules. Hot water accelerates the rate of diffusion or mixing, and if left standing long enough the sugar content of the liquids on each

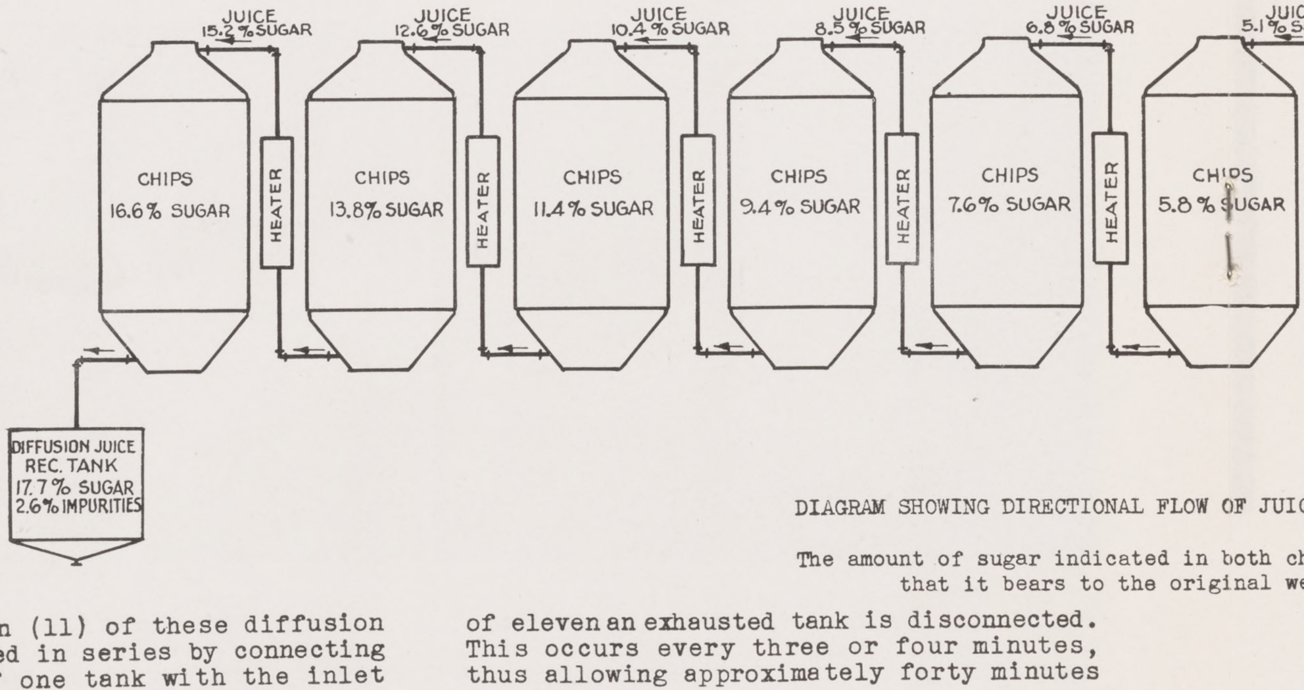


DIAGRAM SHOWING DIRECTIONAL FLOW OF JUI

The amount of sugar indicated in both c
that it bears to the original we

Normally eleven (11) of these diffusion tanks are operated in series by connecting up the outlet of one tank with the inlet of another. Of the three (3) other tanks one will be filling with fresh chips, while another is being emptied of its exhausted chips (now called pulp). The remaining tank is either ready to empty or may have just been filled with chips. When a tank of fresh chips is connected to the series of eleven an exhausted tank is disconnected. This occurs every three or four minutes, thus allowing approximately forty minutes for diffusing.

Fresh hot water under pressure always enters the top of the tank containing the most exhausted (desugarized) chips, and the liquid or juice containing the most

GAR FROM THE SUGAR BEET

ued from Page 11.

side of the cell wall would be of equal strength. It is easily seen that enormous quantities of water would be required to complete the extraction of all sugar from the beet cells in this manner. For this reason the extraction of sugar in the factory is accomplished by bringing fresh chips (with their countless cells) in contact with previously diffused juice in successive stages. (see Figure 7 - Diagram of diffusion)

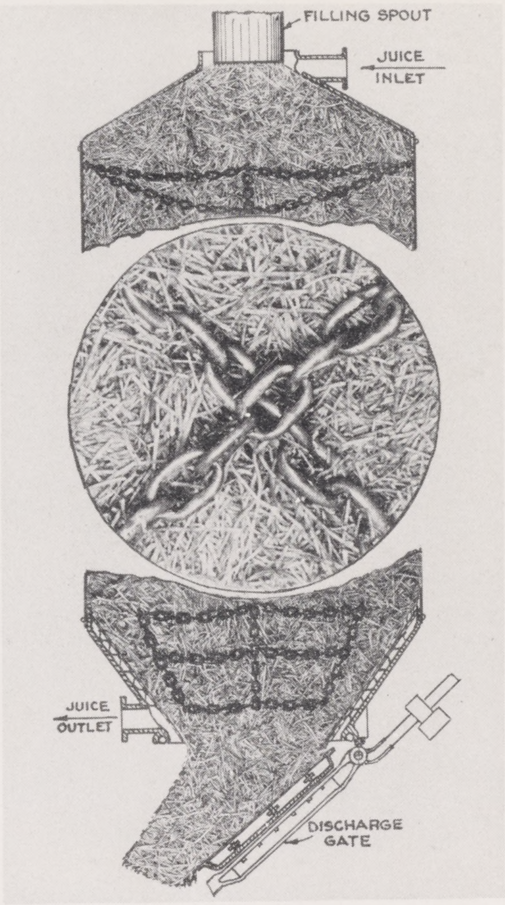
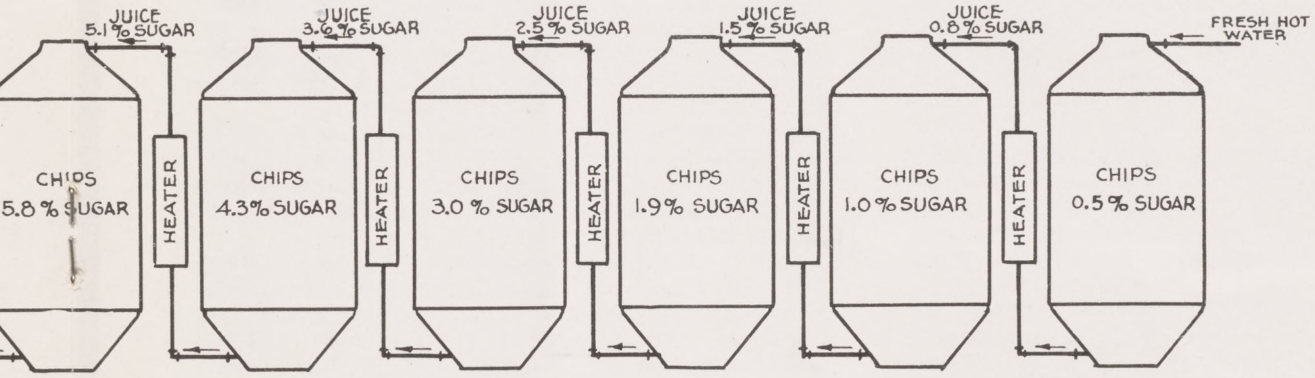


FIGURE 7. SECTIONAL VIEW OF A TYPICAL BATTERY TANK - For the extraction of sugar from beet chips, by diffusion, a battery of fourteen (14) cylindrical tanks (similar to Figure 7) are used. Each tank will hold approximately five (5) tons of chips and is equipped with a juice or water inlet at the top and a similar outlet at the bottom. The outlet is covered by a screen to prevent small particles of chips escaping. Inside the tank there is a network of loosely held chains which are used to prevent the chips from packing too tightly.



FLOW OF JUICE THROUGH DIFFUSION BATTERY

d in both chips and juice is the percent
original weight of beet chips.

sugar always leaves the tank containing chips of highest sugar content. The juice in this manner is passed downward through one tank, up through a heater, then downward through the next in the order of increasing sugar content of chips. If 230 pounds of water is added to each 100 pounds of chips containing 18% sugar by weight, there will be a final diffusion juice containing 120 pounds of water, 17.7 pounds of sugar, and 2.6 pounds of impurities (non-sugars). The other 110 pounds of water flushes away with the discarded or exhausted chips (pulp) carrying with it approximately 3/10 of a pound of sugar.

The pulp is a valuable livestock food and after dewatering is used direct, after siloing or after further drying in kilns.

THE PAN SHEET

May 1, 1942.

Dear Reader:

You have already heard that women are to be employed at the three Spreckels factories this campaign. This is not an innovation. Women were employed as far back as 1895 in the laboratory at Watsonville, then at Spreckels and Manteca. During the World War, women were employed at various stations at Spreckels, the shifts being twelve hours each, 7 days a week for the duration of the campaign. The shifts this year will be eight hours each. Suitable buildings for lockers and rest rooms are being provided for the use of women.

Carvel told me that applications for campaign employment are being received in almost the same numbers from men and women, and that the women appear to be capable and intelligent. Why shouldn't they be?

I hope the snails didn't damage your Victory Garden. I had to replant mine and learned "If at first you don't succeed, try, try again."

Mrs. Fredrika Smith has rented Riley's corner house, just a stone's throw from the office, to be near her work. She furnished it with everything new from A to Z, just like a bride's house, lacking only the groom. Mrs. Van Brocklyn is the star boarder.

The other night, I was late leaving the office, so I stepped on the gas and soon attained a speed of 35 miles an hour, easily overtaking Ernie Hartmann, who was bravely bicycling against the wind. Then I passed Irvin Hall and his passenger, Jack Dios. Ahead of him was a string of cars in which rode Spreckels employees, slowly traveling toward their homes. There was Gus Sonniksen, Tom Jordan, Ed Quist, Billy Simon, Bill Hedges, Bud Dolan, Albert Quintero, and my brother with his little car decorated with the bull's horns and the wording "Rancho San Benancio". You'd think he was a cattleman! At the above mentioned speed, I passed them all, which goes to prove that they are either purposely deferring the meeting with the little woman and her tale of the day's woes, or else conserving tires and gasoline.

Last week I had occasion to go to the Civil Engineering Department to use the cutter and there was Harris Rowe busy at one of the drawing tables. As I entered I said "hello", but there was no response. After quite a while, he said: "Hello! We're so busy engineering here, that we forget to be civil," which I thought was rather clever. Then to erase any seeming slight, he gave me an interesting snapshot taken at Ranch 3 almost thirty years ago of Hy Tracey, ranch bookkeeper, and Frank Greer , then cattle foreman, in a buggy drawn by two black horses. They were dressed in their Sunday clothes, apparently on their way to King City to paint the town red.

What is your reaction toward donating blood to the blood bank? I am told it doesn't hurt and it is not weakening. If they would take the blood so we couldn't see it, I guess more of us would come forward with an offer. For example, they could blindfold the donor. Two stout women of my acquaintance were talking of generously contributing, but when they learned that it was not reducing, made no further advances.

From time to time, some of our fellow employees have had to have blood transfusions and it has been given as a generous gesture by co-workers. The patient should more rapidly react to the treatment when he knows his friends have contributed of their life stream that he might live.

There are those who like to know the source of the blood which is put in their veins, but it really doesn't make much difference as long as it is the proper type. Those who collect the blood are responsible people and know its origin. I have been wondering what the result would be if a transfusion of colored blood were given to a white person. Would it affect the skin coloring, produce kinky hair, or make itself evident in a changed disposition?

Bob Grunsky sent notices to some of the boys that he and Claus Spreckels would take their pictures on a certain date and asked them to come prepared with a coat, collar and necktie. P. K. refused point blank, but consented to be photographed when it was explained that they were only going to take bust pictures. Ever since then, the boys have either forgotten to take the "props" home, or have decided to wear them all the time.

I believe that the employment of women at the factory will have a beneficial effect on the men, as far as dress, haircuts, etc., is concerned. In the army, good grooming is requisite, but in civilian life a man's appearance is his own affair (unless he's married). With women at the factory, methinks the makers of Honey Dew sugar will voluntarily endeavor to look their best.

As ever,

Rose Rhyner

Left to right: Kay Shedden, Ellen Lowell, Dorothy Todd, Martha Pflug, Iona Coleman, June Stivers.

SPRECKELS OFFICE GIRLS

KAY SHEDDEN

Comptometer Operator, suggested the name "Honey Dew News" for the publication of the Spreckels employees. Her reward was a 100-lb. sack of Honey Dew sugar. It couldn't happen now. Kay likes the great outdoors and enjoys swimming, horseback riding, and dancing. She collects knick-knacks and tinfoil.

ELLEN LOWELL

Assistant in the Cashier's Office, is engaged to Burr Scott, who is in the Nation's service. Ellen's spare time is spent with an embroidery needle, making pretty things for future use. Before Ellen became a business woman, she studied interpretive dancing.

DOROTHY TODD

Mr. Joy's secretary, has for her main worries the sugar and pulp bills-of-lading. When Dorothy isn't playing the piano or flute, she's baking cookies for friends in the Army. Dorothy's a plutocrat. She drives her own car to work and owns two war Bonds.

MARTHA PFLUG

(Mrs. Paul) is the only woman employed in the Agricultural Department. A bride of a few months, she is domestically inclined and enjoys taking care of her little apartment in Salinas. She has an interesting collection of miniature ivory animals.

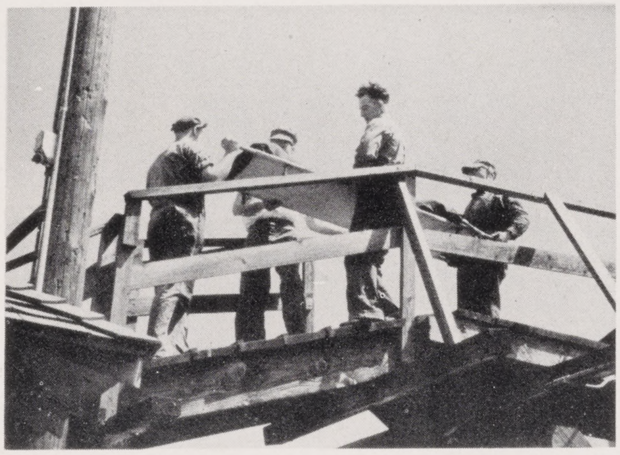
IONA COLEMAN

Assistant in the typing department, is the youngest girl in the Spreckels office. A part of each noon hour is spent in the factory Lunch Room, where she operates the cash register and makes herself generally useful. She knows the insignia, the numbers of the units, and the names of all the U. S. Army equipment.

JUNE STIVERS

Typist and stationery clerk, has a most unusual engagement ring. A lighted match held in front of it, reveals a perfect star. (Star sapphire). Some day, June will be Mrs. George Davis. June likes to sew.

Manteca First Aid



Whisman, Luck, Johnson, Neal, act as stretcher bearers. The "victim" is H. Lourentzos.

The Manteca First Aid squad, with the specific duties assigned to each to be performed in case of an accident, is, as follows:

D. Luck and Geo. Johnson: Proceed to scene of accident and take charge. Luck to remove electrical hazards. Johnson to remove mechanical hazards.

R. Neal: In charge of cottages.

J. Whisman: Take stretcher to scene of accident.

W. Hood: Report to scene of accident with First Aid kit. Determine extent of injuries and 'phone doctor, if necessary.

B. O. Bauer, Captain: Proceed to scene of accident with First Aid kits, blankets and splints.

All members have completed the Standard Red Cross First Aid Course and have an official Red Cross card. The team is under the direction of I. Resch, Defense Coordinator.

One meeting is held each week to practice on specific problems and for reviews on the First Aid Manual. Practice drills are held in conjunction with practice fire drills. The efficiency of the squad is best shown by the fact that the entire First Aid squad arrived on the scene of the accident before the "victim" during a recent practice drill.

NOTICE

To All Employees:

As you know, War Ration Books are being issued to every individual in order to control the purchase of sugar. War has reduced the supply of sugar and our war effort is requiring more sugar than ever before. Through rationing, the Government controls the amount of sugar every distributor and manufacturer can buy, so that the nation's war needs will be met and so that all the sugar available after that will be fairly divided among civilian users in the United States.

Under present regulations, War Ration Books will be issued to any person possessing less than six pounds of sugar and will not be issued to a person having more than six pounds. Retail merchants will purchase from you any excess that you have on hand.

Every month your Company issues Sugar Cards to each employee, authorizing the purchase of five pounds of sugar from the retail grocer and a refund by the Company of the purchase price. In some cases this amount of sugar for a family may exceed the amount per month fixed by the Government. To be eligible for the refund the cards must be used in the month received. Your Company will continue this custom of issuing sugar cards, and in doing so asks each employee to cooperate conscientiously and cheerfully in the War Rationing Program.

After the Ration Books are issued, no consumer can buy sugar without the necessary rationing stamps. You can help in the War Program by discouraging hoarding by short-sighted people and by explaining to others the necessity for conserving our sugar supply.

Spreckels Sugar Company

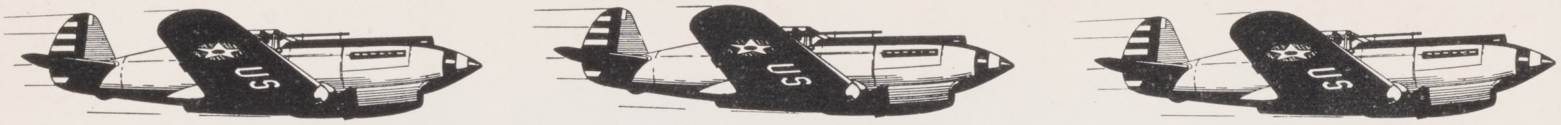
Bowling

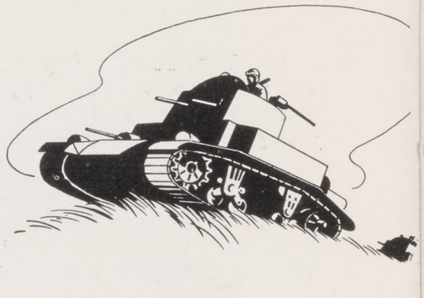
Forty Factory 1 bowlers are at it again. A seven weeks' tournament started April 14th, under the direction of Bob MacRossie.

The Sugar End team, captained by Bill Simons set a hot pace at the start, but at present the Aggies are fighting it out with the Main Office for first place.

Visitor

"Colonel" and Mrs. W. O. Witherspoon, of Spreckels, enjoyed a visit from Captain W. O. Witherspoon, who stopped to see them while en route to a new assignment at Fort Leavenworth.

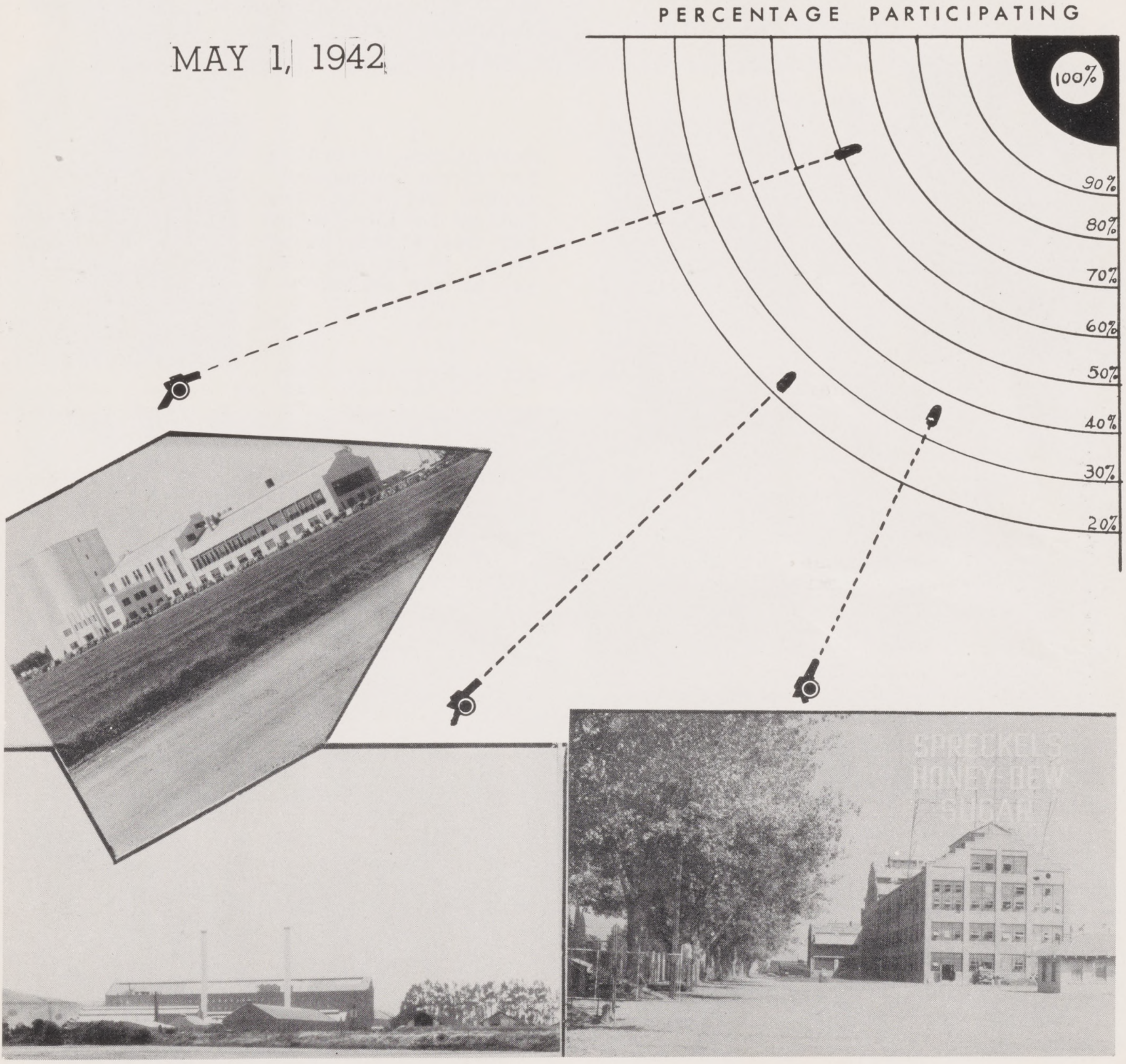




EMPLOYEE PARTICIPATION

IN OUR PAYROLL ALLOTMENT PLAN OF BUYING

UNITED STATES DEFENSE SAVINGS BONDS



MAY 1, 1942

1942 Golf Tournament

By R. R. Grunsky

On Saturday, May 16th, the third annual J. D. and A. B. Spreckels Company Golf Tournament will be held at the Sonoma Golf and Country Club.

All employees, both campaign and intercampaign, are invited to get together for a good time and outing. It is not essential that you know how to play golf.

The competition this year for the W. J. Resch Perpetual Trophy promises to be hot and heavy and the Sacramento Office team has already served notice that they intend to carry it home.

A buffet supper, scheduled for 5:00 P.M., will provide a get-together and good time for everyone, at the conclusion of the day's golfing festivities.

The Sonoma Mission Inn has offered very attractive rates to groups of twenty-five or more, staying through Sunday.

Listed below are the names of the committeemen and their location, so as to make it convenient for you to make reservations.

R. R. Grunsky, Spreckels, Chairman.
W. K. Gray and E. J. Barwick, San Francisco,
F. H. Whelan, Woodland, Ira Resch, Manteca,
Hugh Melvin, Sacramento, Bob Briggs,
Spreckels.

The handsome gentleman to the left is none other than Ira Resch of Manteca, winner of the low net trophy and a member of the Manteca team this year.

Mary Dalton, attending her first tournament, walked off with the ladies' low net trophy and was mighty happy about it as you can see by her smile.

Club House at the Sonoma Golf and Country Club.

The Spreckels Baseball Ground

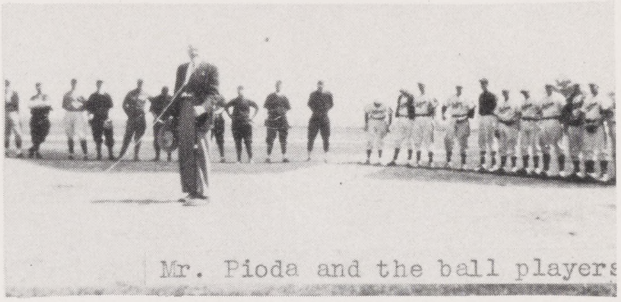
BASEBALL

The Salinas diamond, located in the Rodeo Grounds, which is now the evacuation center, will not be used as such during the duration of the war. While the playing field remains untouched, the layout of the buildings prevents the use of the parking area and the bleachers, making it impossible to accommodate spectators. As a result, the Salinas baseball club will use the Spreckels diamond and all home games will be played there.

Chas. L. Pioda, Resident Manager of the Spreckels Sugar Company, with well chosen words, officially opened the 1942 baseball season on April 26th, when the Salinas team met the Gonzales players on the Spreckels diamond. Soldiers from Fort Ord raised the stars and stripes with fitting ceremony, and the Spreckels Band was on hand to play stirring marches.

The score was 4 to 5 in favor of Salinas.

They raised the Stars and Stripes



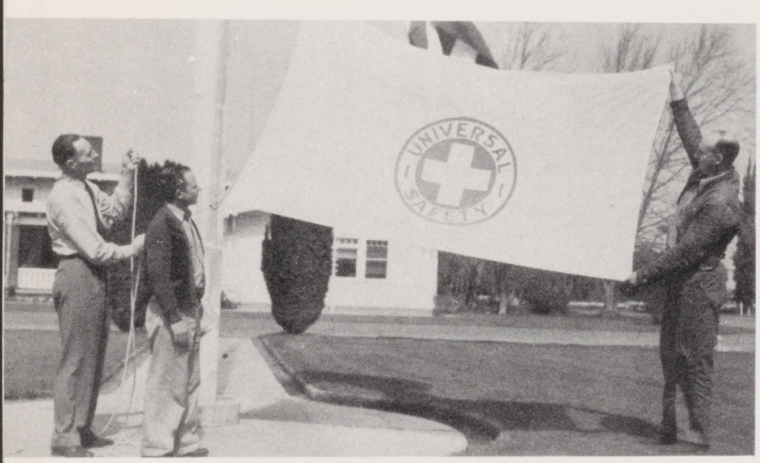
Mr. Pioda and the ball players

The Spreckels Band

Top row of the bleachers

SAFETY SECTION

By R. R. Grunsky



A. A. Norman, Plant Superintendent; Ben Hooper, Union President; and Slim Whisman, Union Safety Director, are shown raising the Safety Banner.

SAFETY FLAG CONTEST

The contest between the three plants waxes hot in Accident Prevention as we swing into the fifth month of the Year, 1942.

Manteca is proudly flying its Safety Banner won by dint of valiant effort put forth in the final stages of the Year, 1941 when they nosed out Spreckels Factory No. 1.

To date this year, Manteca seems determined to hang onto their banner for when the writer was last there, the Safety Bulletin Board registered 133 days since the last lost time injury.

Spreckels is determined that they will not be defeated again this year and much interest is shown by both supervisors and employees in preventing all injuries.

Woodland, handicapped by a poor start and also by their two short sugar campaigns with their resulting rush and flurry, is rapidly challenging Spreckels and Manteca. At time of writing, their Bulletin Board read 78 days without a lost time injury.

Listed below are the standings of the three Plants through the month of March:

Manteca	100.0%
Spreckels	99.2%
Woodland	87.1%

FOOD FOR THOUGHT

According to Department of Labor figures, there were 5,000,000 employees actively engaged in war industries as of the end of 1941.

The Labor Division of the War Production Board estimates that they must have 15,000,000 employees in War Industries by the end of 1942. This means 10,000,000 more workers are needed this year.

After carefully checking all sources of labor supply and including all unemployed and all employees now engaged in non-essential industries which can be shifted to war production, they estimate that they will need to draw two and one-half million employees from the ranks of those not now employed in any occupation. These two and one-half million workers will be drawn into Industry out of the ranks of housewives, high school and college students.

All of the above certainly indicate that serious bottlenecks of labor are developing and certainly it tends to focus attention on the importance of each individual's production effort toward our all out drive for victory.

Lost time injuries have no place in this picture. Carelessness and inattention which cause industrial injuries are considered today to be a form of industrial sabotage. National Safety Council estimates that two billion man hours were lost during 1941 due to industrial injuries in the United States. Unsafe workers have no place in the industrial drive for victory.

THE EYES HAVE IT

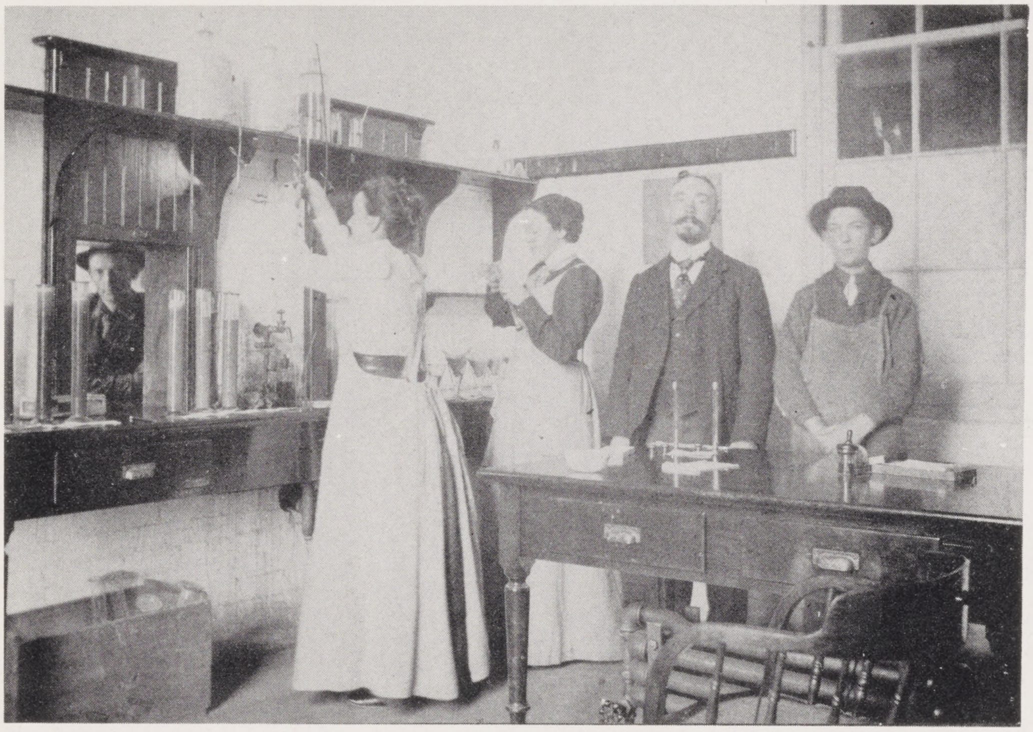
From National Safety Council News Letter

While you read the above article, two American workers suffered eye injuries. Every thirty seconds thereafter another worker will grab his eye or eyes in pain as the result of other eye injuries.

At the end of this eight-hour day and every other eight-hour period a thousand men and women in the factories, mines, utilities and other places will be victims of eye injuries.

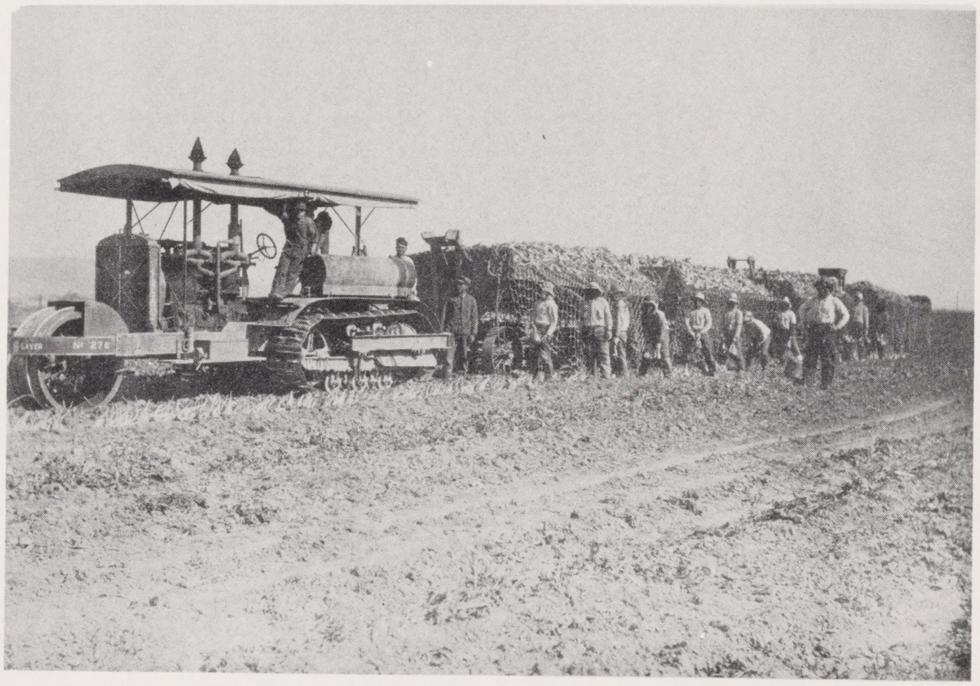
This goes on EVERY day until at the end of the year some 300,000 eye injuries have been totalled in America. These injuries cost workmen and their communities $100,000,000 annually. They cost employers a similar amount. Or don't you give a damn?

LOOKING BACK



A glimpse of the Spreckels laboratory in 1899. At the left is Miss Louise Shaw (now Mrs. Bullene of Salinas), Miss Luchsinger, and Mr. Doyer, chemist. The boys were sample carriers. Miss Shaw and Miss Luchsinger were the first women employed in the laboratory at Watsonville, in 1895, and followed the industry to Spreckels.

K. W. Lalor and a friend, with their close cropped hair, had just joined the Navy in 1918 when this picture was taken.



Frank Tabata, Japanese Caterpillar Contractor, with his crew of Japanese field laborers at Ranch No. 9, Soledad, in 1915. Four wagon loads are being hauled by the caterpillar to the loading dump at Harlem. The nets full of beets were emptied into the hoppers.

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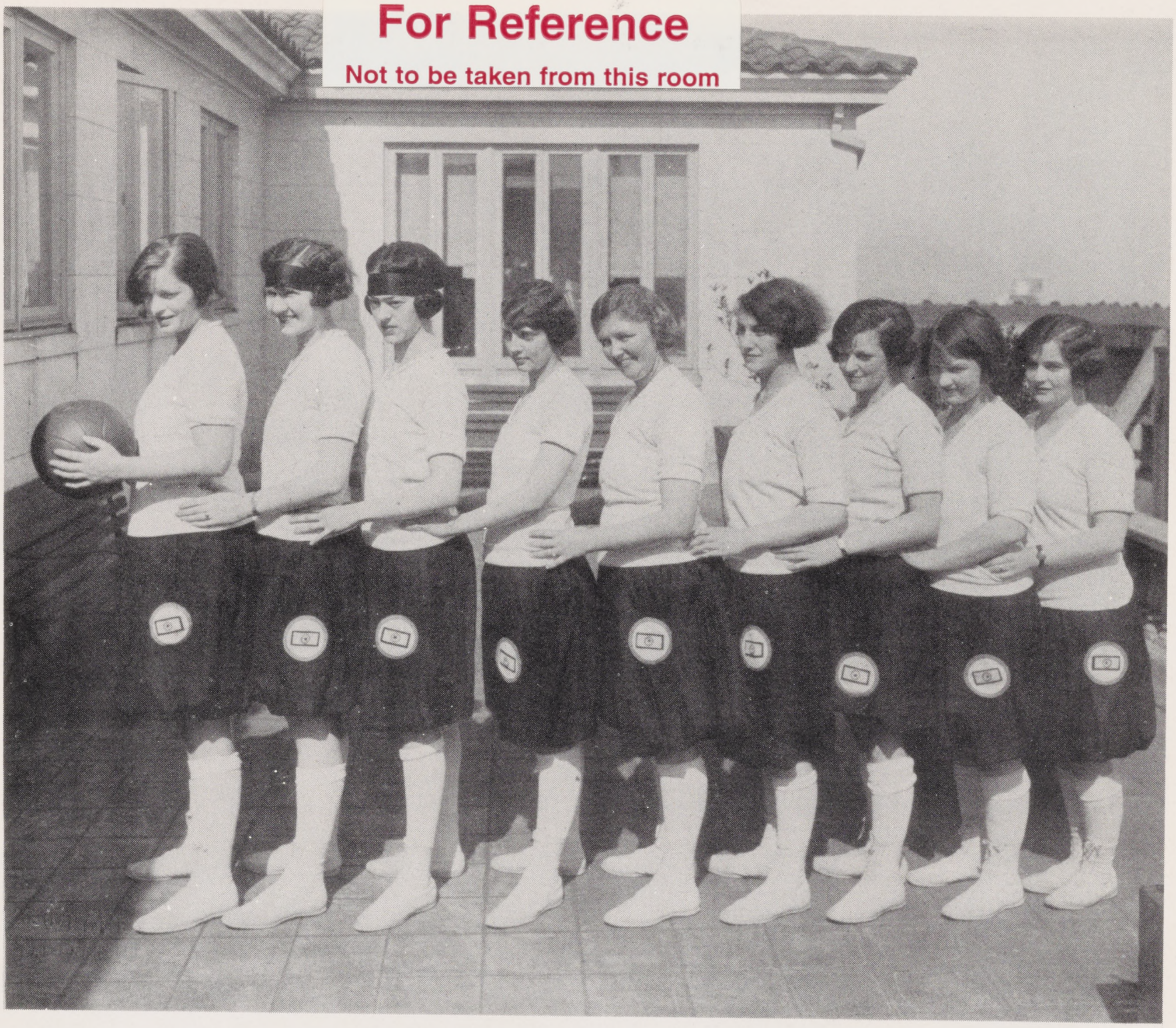

Left to right: Marion Eddy, Guard; Adele Cole, Center; Anita Reed, Guard; Mary Spargo, Utility; Henrietta Patterson, Utility; Josephine Ryan, Forward; Helen Laydon, Forward; Muriel Eddy, Utility; Loretta Hickey, Side Center.

SPRECKELS BASKETBALL TEAM

The Spreckels Basketball Team, organized in 1924, with Mrs. Maude C. Asher, as Captain, had for its personnel, women employees of the Oceanic Steamship Company's office and of the Spreckels Sugar Company's San Francisco office.

At the end of the first season's play against other members of the Industrial Athletic Association League, namely; the Southern Pacific Company, Associated Oil Company, Standard Oil Company, and other companies, the Spreckels team placed second. As an expression of congratulation on their many victories in the League, the Spreckels Sugar Company presented each member of their team with a small gold pin in the form of a basketball supported on the wings of victory, and engraved with a large S and the year 1924.

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Team members still in the Company's employ are Miss Cole, Mrs. Asher, (the captain), and Miss Alma Rodenburg. The two last named are not in the picture.

The team was organized when bobbed hair was just beginning to be popular and here, too, the Spreckels girls took the lead. A large measure of the team's success was due to the fashionable basketball outfits with roomy bloomers. Long white stockings rolled below the knees permitted smooth knee action as well as air cooling; and sweater sleeves folded above the elbows allowed unhampered motion.

THE COSSETTE CHUTE

Barber: "Shall I give you a shampoo, sir?"
Bill Conner: "I can afford the best - genuine poo or nothing at all."

- - -

"The gum chewing girl and the cud chewing cow
Look something alike, yet different somehow.
What difference? Oh, yes, I see it now -
The intelligent look on the face of the cow."

- - -

Fred Eis: "I love a girl, but she doesn't pay any attention to me. What would impress her?"
Harry Johnson: "You need five things - money, and a car with four good tires."

- - -

Alex Smith: "Why are you jumping around like that?"
Bill Ferreira: "I just took my medicine and forgot to shake the bottle."

- - -

Geo. Borland: "I come from a family of brave men. My uncle once walked up to Joe Louis and punched him on the nose."
Ed Hull: "Gee - I'd like to shake hands with your uncle."
George: "Don't be silly. We're not going to dig him up just to shake hands with you."

- - -

William Hood: "Hey, you look sick. What happened to you?"
Carl Broberg: "Last night I dreamed I was eating shredded wheat, and when I woke up this morning, most of my mattress was gone."

- - -

Wife: "Why do they say: 'Smart as a steel trap?' I cannot see anything smart about a steel trap."
Dave Westwood: "A steel trap is called smart, dear, because it knows just when to shut up."

- - -

He: "Girlie, I have a confession to make. I'm a married man."
She: "Gawd! You had me frightened. I thought you were going to say this car didn't belong to you."

- - -

And then there was the dumb sailor who thought that a mushroom was a breakfast nook. - U.S.S. Trenton Telescope.

- - -

Automotive progress:
1940 - No running boards.
1941 - No gearshifts.
1942 - No tires.

At the fair, Bill Hedges took a great fancy to the merry-go-round. Round and round he went, never seeming to tire, until all his money was gone. Then only did he dismount and rejoin his wife, who had been watching him with impatient eyes. "Well, Bill," she said, "you sure have spent your money and had a good ride. But where have you been, Bill, where have you been?"

- - -

L. H. Barter: "He said you were what?"
P. K.: "Laconic."
L. H. Barter: "What does that mean?"
P. K.: "I don't know. But I gave him one on the nose to be on the safe side."

- - -

Earl Thompson: "Where do you find mangoes?"
Vern Edwards: "You'll find them wherever woman goes."

- - -

Old-fashioned girls used to faint. Modern ones just pass out.

- - -

K. W. Lalor: "Was your husband badly hurt when he was struck by a car, Liza?"
Liza: "Yassuh, he suffered from conclusion of the brain."
K. W. Lalor: "You mean, concussion of the brain, don't you?"
Liza: "Nosuh, ah means conclusion. He's daid!"

- - -

"Old Father Hubbard went to the cupboard
To get himself a drink.
And when he got there, the cupboard was bare,
So he took one from the sink."

- - -

James Sheridan: "Did you smile at your troubles as I advised you?"
Charles Crawford: "Yeah, and Mr. Bernt warned me three times to wipe that silly grin off my face and get to work."

- - -

"I don't mind washing dishes for you." wailed Larry, "And I'll even sweep the floors, but I ain't gonna run no ribbons through my nightshirt just to fool the baby."

- - -

Drury McMillan: "How long will you be in jail, Mose?"
Mose: "Two weeks."
Drury: "What is the charge?"
Mose: "Ain't no charge, eberything is free."
Drury: "I mean what did you do?"
Mose: "Done shot ma wife."
Drury: "Shot your wife and only in jail two weeks?"
Mose: "Dats all, den ah gets hung."

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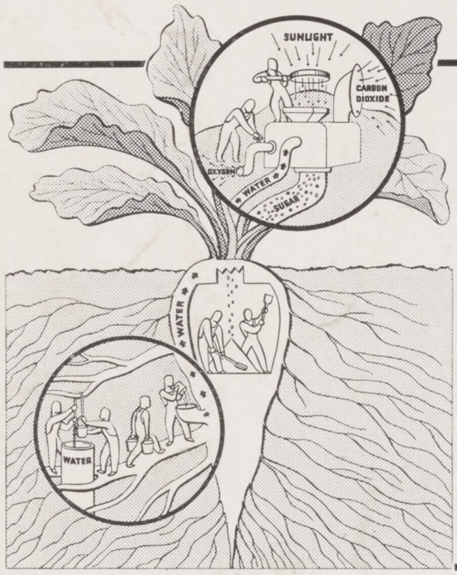
THE SUGAR THAT NEEDS NO SHIPS



Here is the sugar beet making sugar. From the soil the beet draws water into its leaves. Within the leaves, hydrogen and oxygen (of which water is made) meet carbon dioxide from the air. When this happens in the presence of sunlight a union of these elements takes place— and sugar is created. That is why sugar is sometimes called "crystallized water and sunshine"

PURE BEET SUGAR is as sweet and wholesome—as sparkling white and fine in grain—as any other top-quality sugar. It tastes the same. It behaves exactly the same in cookery.

The only difference is that beet sugar needs no ships.

At the time of World War I American farmers produced 764,811 tons of beet sugar annually.

Today our sugar beet industry turns out nearly a million and three-quarters tons of sugar every year. *Present* production of American beet sugar is nearly as large as the *total* tons of sugar formerly brought from Hawaii and the Philippines... almost as large as our normal yearly import from Cuba.

* * *

Because sugar in wartime is vital, our supply of sugar must do more than take care of our own needs. We must send sugar to our allies. *And in addition, we may have to distill thousands of tons of sugar for making explosives.*

This three-way division of our sugar is why sugar has to be rationed.

Our 1942 ration, however, will be a liberal ration. It will allow each of us more sugar than did the 1918 ration. Under this ration and with present price control, nobody in our land will be deprived of sugar.

Let's remember that. Let's waste no sugar and use no sugar unnecessarily.

* * *

We say again, America is never likely to go without sugar. And one reason is the sugar beets that soon will grow green and lush over thousands of western acres.

The sugar beets that will create, from air and water and sunshine, the sugar that needs no ships.

The largest-selling sugar grown in the West